Package : VCSP50L1

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1. Structure and materials

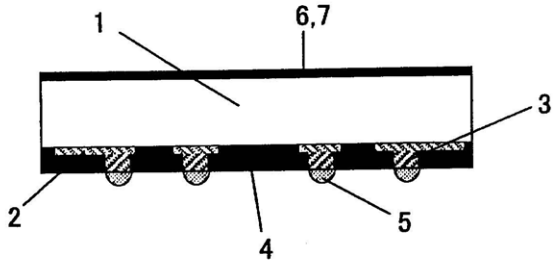

Fig. 1 Structure

No.	Item	Materials
①	Die	Silicon
②	Cu Layer	Cu
③	Cu Post	Cu
④	Encapsulation	Epoxy Resin
⑤	Ext. terminal	Sn-3Ag-0.5Cu Solder
⑥	Encapsulation	Polyamide-imide Resin
⑦	Marking	Laser Marking

Dehydrated weight : 0.001g

2. Tape and Reel information

2. 1. Packing specification

Tape	Embossed carrier tape
Quantity	3,000pcs/Reel
Direction of feed	E2 (See Fig. 2)

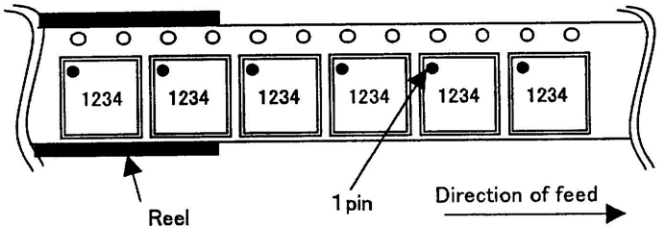

Fig. 2 Typical Tape and Reel configuration

2. 2. Tape and Reel specification

2. 2. 1. Tape and reel dimensions (See the table on page 2/4)

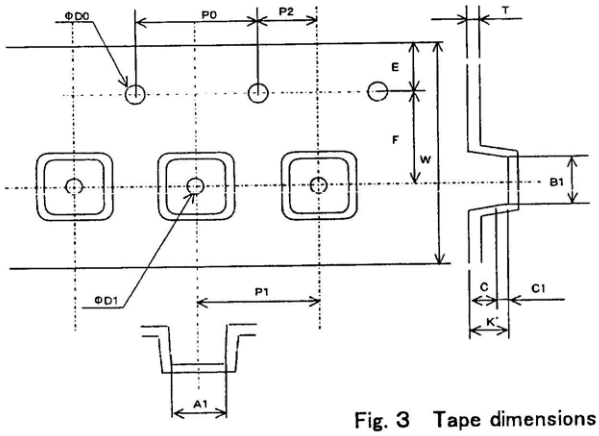

Fig. 3 Tape dimensions

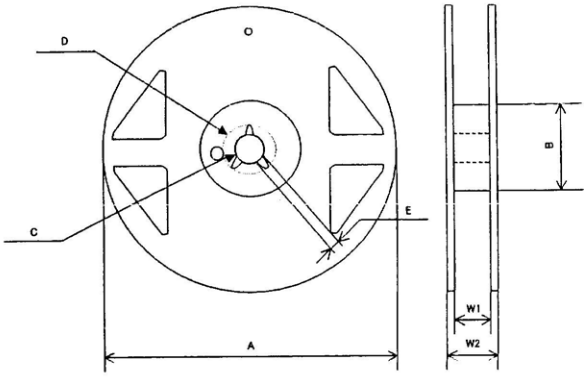

Fig. 4 Reel dimensions

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(Tape dimensions)

A1	B1	C	C1	D0	D1	E	F	K'	P0	P1	P2	T	W
1.29 ±0.1	1.29 ±0.1	(0.55)	(0.25)	Φ1.5 +0.1 −0	Φ0.4 ±0.1	1.75 ±0.1	3.5 ±0.1	0.8 ±0.1	4.0 ±0.1	4.0 ±0.1	2.0 ±0.1	0.25 ±0.05	8.0 ±0.3

(Reel dimensions)

A	B	C	D	E	W1	W2
Φ180	50 MIN	13.0 ±0.2	20.2 MIN	1.5 MIN	9.4 ±1.0	13.4 ±1.0

2. 3. Leader and Trailer

2. 3. 1. Leader

No component pockets are 40 pockets or more.

2. 3. 2. Trailer

No component pockets are 10 pockets or more.

Tape is free from reel.

2. 4. Label for Reel and Box

Fig. 5 Label example

2. 5. Packing style

4 reels or less per inner box.

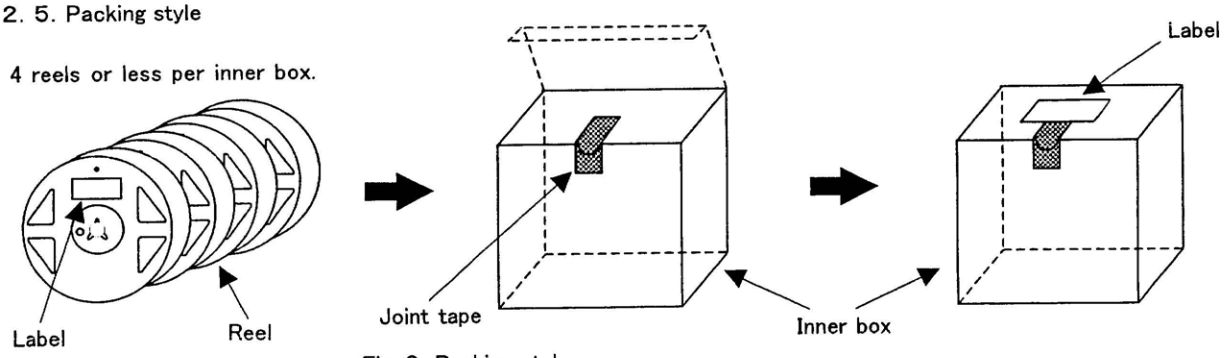

Fig. 6 Packing style

2. 6. Shipping style

4 unit boxes or less per shipping box.

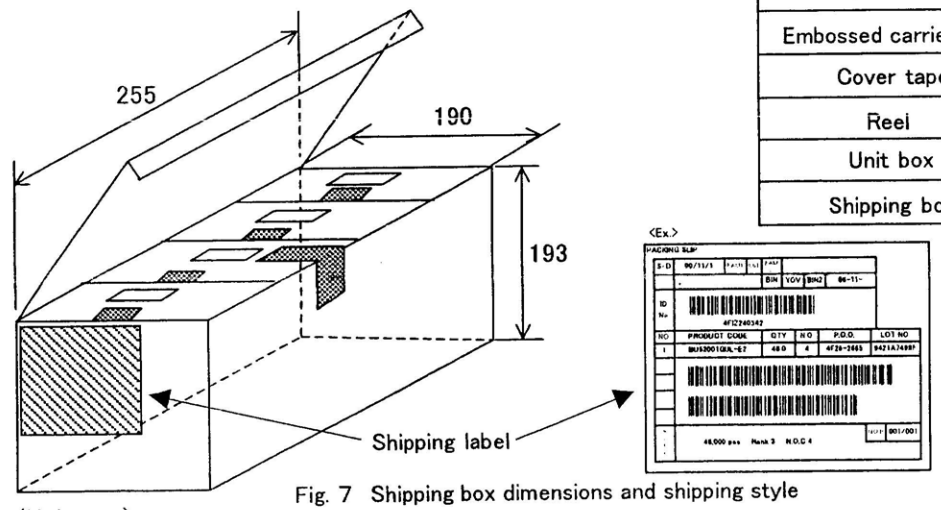

Fig. 7 Shipping box dimensions and shipping style

(Unit: mm)

2. 7. Packing materials

Item	Material
Embossed carrier tape	PS
Cover tape	PET + PE
Reel	PS
Unit box	Cardboard
Shipping box	Cardboard

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2. 8. Others

2. 8. 1. Peelback strength

Cover tape peelback strength is 0.2～0.7N.

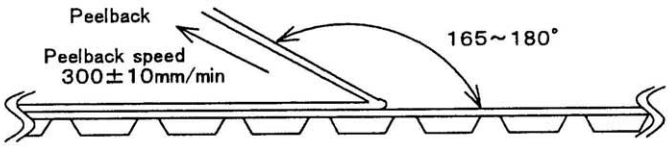


Fig. 8 Test method

2. 8. 2. Dropouts

(1) No consecutive dropouts.

(2) A maximun 0.1% of specified number of products in each packing may be missing.

3. Storage conditions

3. 1. Storage environment

Recommended storage conditions are as follows :

—Temperature : 5～30℃

—Humidity : 40～70% RH

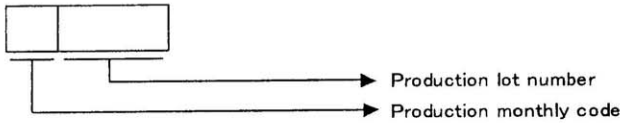
3. 2. Storage period

—Specified storage period : 1year

3. 3. Specified storage period until soldering

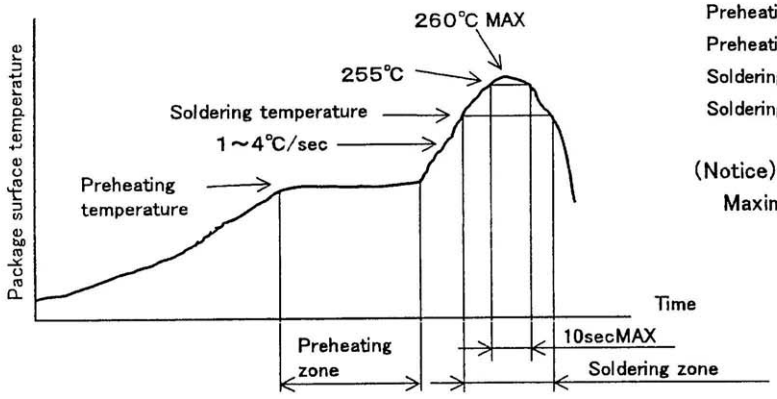
This package dose not require additional drying treatment as long as the moisture condition at the mounting process is within our recommended mounting condition.

4. Marking lot number



5. Soldering conditions

5. 1. Recommended temperature profile for reflow



Preheating temperature ; 130℃～190℃
Preheating zone ; 120sec MAX
Soldering temperature ; 220℃～230℃
Soldering zone ; 60sec MAX

(Notice)
Maximum 2-times soldering

5. 2. About mounting with Sn-Pb solder paste.

Mounting with Sn-Pb solder paste is not recommended because it has a possibility of reducing reliability to connect with Sn-3.0Ag-0.5Cu solder balls.

5. 3. The wave soldering method is not supported.

5. 4. Partical heat supply method (by soldering iron) is not supported.

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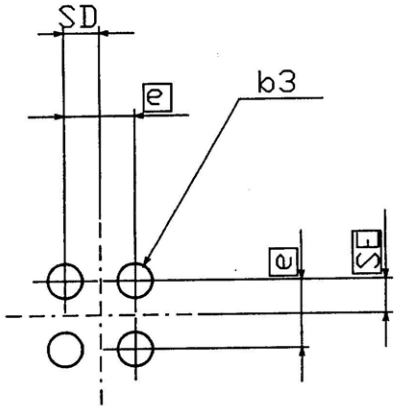
6. Footprint dimensions (Optimize footprint dimensions to the board design and soldering condition)



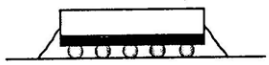
Symbol	Reference Value
e	0.50
b3	0.25
SD	0.25
SE	0.25

(Unit:mm)

7. Regarding the underfill material

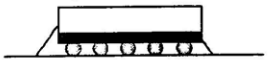
There are some cases that the underfill material is applied as purpose to reinforce the soldered junction of the package. Since the mount reliability depends on the resin material or coating condition , it may deteriorate on the contrary. Therefore , it is necessary to evaluate it sufficiently for its application.
In term of the coating condition , it is preferable that there is an enough material beyond the each four sides of a packeage.

<Preferable example>



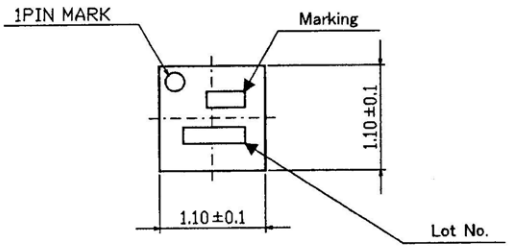
(There is a Underfill resin evenly at each four sides.)

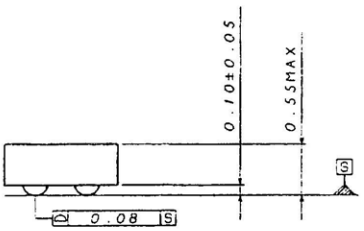
<Non preferable example>

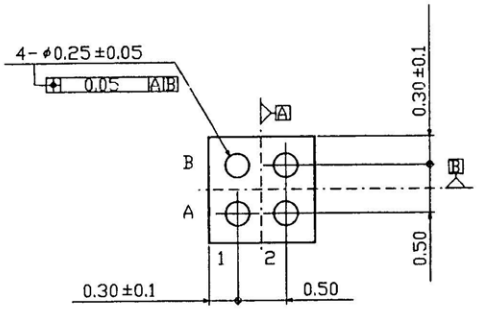


(There is little Underfill resin at one or two sides.)

8. External dimentions







Part No.	Marking
BU52001GUL	HA
BU52002GUL	HB
BU52003GUL	HC
BU52004GUL	HD

(Unit:mm)

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